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DEPARTMENT OF STATE LANDS

STAN STEPHENS, GOVERNOR
CAPITOL STATION

STATE OF MONTANA

(406) 444-2074
1625 ELEVENTH AVENUE
HELENA, MONTANA 59620

November 29, 1991

Dear Reader:

Enclosed for your review is an Environmental Assessment (EA) prepared by the Department of State Lands (DSL), the Bureau of Land Management and the Madison Ranger District, Beaverhead National Forest. The EA evaluates a proposal by 2900 Development Corporation for hauling unprocessed gold ore from the A & P heap leach and construction of a haul road from the mine to the Pony mill.

Public comment on this EA will be received by the agencies until 5:00 p.m. December 30, 1991. Comments should be about the adequacy of the EA in assessing issues, new information not considered that may influence the analysis, and clarification. Comments should be specific. The agencies will use these comments and agency responses, the EA, and the application to make a final decision on the permit. The decision may be to approve the proposal, deny the proposal, or approve the proposal with modifications.

The public meeting is in the process of being scheduled for the week of December 16, 1991. A separate mailing and a news release will announce the date, time and place. Comments will be accepted at the meeting or by written comments directed to:

Sandi Olsen
Montana Dept. of State Lands
Capitol Station
Helena, MT 59601

or

John McKay
Bureau of Land Management
PO Box 3388
Butte, MT 59702

Thank you for your time and consideration. Please call Dept. of State Lands (444 2074), or the Bureau of Land Management (494 5059) if you have any questions.

Sincerely,

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HELENA, MONTANA 59620

Robert C. Winegar
Environmental Program Supervisor
Hard Rock Bureau
Reclamation Division
RW/mm

PLEASE RETURN

ENVIRONMENTAL ASSESSMENT

for

2900 DEVELOPMENT CORPORATION

APPLICATION FOR AN OPERATING PERMIT

FOR A&P HEAP LEACH AND ROAD PROPOSAL

PREPARED BY:

BUREAU OF LAND MANAGEMENT
BUTTE DISTRICT OFFICE
BUTTE MONTANA
43 CFR 3892 Plan of Operation
MT 077-PO-1

U. S. FOREST SERVICE
BEAVERHEAD NATIONAL FOREST
MADISON RANGER DISTRICT
ENNIS, MONTANA
36 CFR 228 PLAN OF OPERATIONS

DEPARTMENT OF STATE LANDS
HARD ROCK BUREAU
HELENA, MONTANA

PURSUANT TO THE NATIONAL AND
MONTANA ENVIRONMENTAL POLICY ACTS

November 1991

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CHAPTER I - INTRODUCTION

A. Proposed Action

The Bureau of Land Management (BLM) and the U.S. Forest Service (USFS) received a Plan of Operations, for activities associated with the Atlantic and Pacific Mine (A&P) in Madison County, from 2900 Development Corporation (2900) on December 14, 1990. Subsequently, on January 21, 1991, the Department of State Lands (DSL) received an application for an Operating Permit for that plan of operations. Under the proposed Plan of Operations the 2900 would construct a haul road across federal and private lands from the A&P Mine to the custom mill at Pony, Montana, and would haul unprocessed ore from the A&P heap leach.

The A&P Mine and proposed road are located in Sections 16, 21, 22, and 23, of T2S, R3W, PMM, Madison County (Figure 1). Under their proposal, 2900 would:

1. Upgrade their reclamation plans for the existing heap leach pad at the A&P Mine.
2. Construct a new haul road linking the A&P Mine, to Chicago Mining Company's custom mill at Pony.
3. Transport approximately 10,000 tons of unprocessed, uncyanidated gold ore from the A&P heap leach pad site to the mill at Pony.

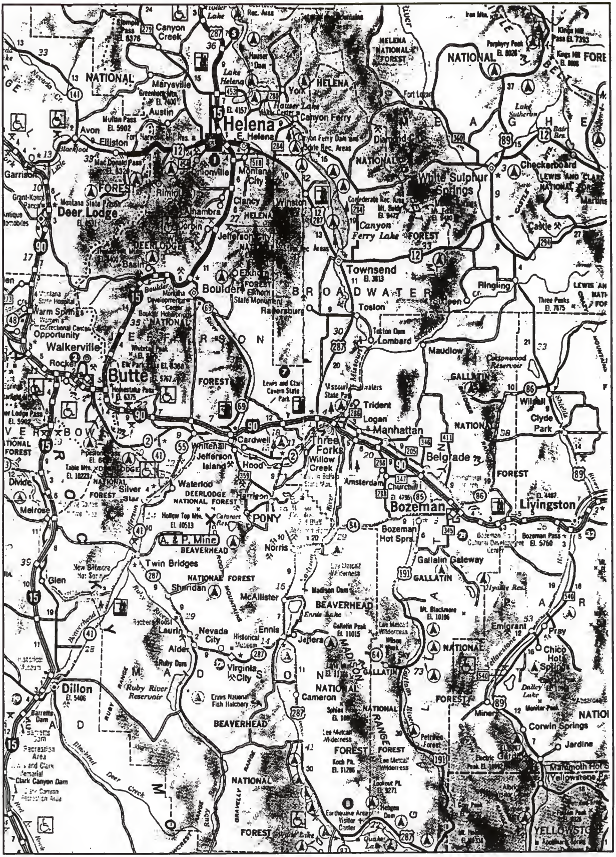
Coincidentally, the road would provide additional access to ongoing exploration and small miner activities in the area.

B. Purpose and Need for Action

The purpose of the proposal is to provide gold ore to the mill, create better and safer access to the mill by separating mine traffic from recreation traffic, and to increase the accessibility to various geologic resources on mining claims held by 2900 and others in the area.

When an application is submitted, the agencies are required to take action under various mining statutes described in Section E, below. Under the mining statutes, DSL, BLM, and USFS must consider the proposed plan in its entirety. The agencies then identify issues, develop possible mitigation and alternatives through the review process to be included in the plan of operations. All these approvals must be considered collectively under the Montana and National Environmental Policy Acts.

Figure 1. Atlantic and Pacific Mine Location



C. Background

2900 is corporately related to Chicago Mining Company (CMC) through its Board of Directors. CMC completed construction of a custom mill in Pony in 1990 for the purpose of processing ore from small mining operations and abandoned tailings in the area. An Environmental Assessment (EA) was completed by the Department of Health and Environmental Sciences (DHES) in August 1989 and a Ground Water Pollution Control System (GWPCS) permit was approved for the mill and tailing impoundment January 8, 1990. As a part of the EA process, the DHES also held public meetings in Pony on November 8, 1989.

A mill permit under the Metal Mine Reclamation Act (MMRA) was not required by the DSL following a court decision that the mill met the statutory definition of "constructed and operating." Therefore the court concluded that the mill was grandfathered from meeting the requirements for mill permitting.

Previous 2900 mining activities have been evaluated in an EA completed in July 1988 by the Jefferson Ranger District and the Deerlodge National Forest. This EA evaluated 2900's proposal to mine and heap leach approximately 36,000 tons of ore at the A&P mine site. The EA considered three alternatives plus the proposed action as they related to wildlife, hydrology, range, vegetation, public safety and cumulative effects. A GWPCS permit for mining was issued August 1988.

2900 currently holds a Small Miners Exclusion Statement (SMES) for the A&P Mine. Under this proposal, 2900 would upgrade their SMES to an operating permit, constructing a road from the A&P Mine to the mill. Under an SMES, the road could not be constructed because of the 5-acre acreage limitation. Information regarding this SMES became public July 1, 1991, following a change in the statute made by the 1991 Legislature.

CMC/2900 upgraded portions of an existing road and constructed linking segments of new road in 1990. All of this construction and upgrading was done on private land for several purposes: 1) bypassing a particularly difficult portion of the Cataract Creek road, 2) providing improved access to mineral claims in the area, and 3) beginning the first leg of the proposed haul road connecting the A&P Mine to the Pony mill. Total length of new and upgraded road would be approximately 15,100 feet. Road width varies, but averages 20 feet and has been built to serve as a haul road.

The original proposal to construct the haul road on federal land was received at the BLM Butte District Office as a notice-level activity. It was submitted by CMC. On October 29, 1990, the BLM, and the Madison Ranger District, met with CMC for a field review of the project area. Through the field review, both agencies determined that a Plan of Operations would be required. A letter was sent to CMC (November 8, 1991) stating that a plan of operations would be required, and listing information to be included in that submittal. At that time, CMC turned the project over to

2900. On November 23, 1990, 2900 submitted a request that the road proposal be granted under a "special use permit" from the Forest Service and under a "right-of-way" for BLM surface. Internal agency review of this proposal concluded that the mining regulations were the most appropriate permitting mechanism for the project. Subsequently, 2900 agreed to submit a plan of operations (B. LaMoure, personal communication December 4, 1990).

The plan was received by the BLM and the USFS on December 14, 1990, and by the DSL January 21, 1991. Five completeness reviews were conducted by the agencies, with coordination through DSL. On September 20, 1991, the agencies determined the proposal was complete and started the assessment of the project.

D. Public Involvement

The DSL published notices once each week for three consecutive weeks, starting January 30, 1991, announcing 2900's proposed plan and requesting comments. These notices were published in the Montana Standard and Whitehall Ledger. In addition, the plan of operation was made available at agency offices and mailed to a number of citizens interested in the project. As a result, several letters were received commenting on the proposed plan of operation. These letters formed the initial basis for identification of public concerns.

Following public notice, the agencies held a scoping meeting in Ennis, Montana, on October 9, 1991, which was attended by approximately 30 people. Several additional letters expressing concern were received at that time. As a result of public involvement and agency review the following concerns have been identified:

1. Cumulative Effects:
    a. Other mining properties exist in the area and could become more active if the proposed road were approved. These include the A&P, Amy, Old Joe, Garnet, and other prospects.
    b. Cumulatively these activities could have a greater effect on wildlife, water, air quality, visual and recreation resources as well as modify the socioeconomic conditions in the Pony vicinity.
2. Wildlife: The possible impact to wildlife as a result of the new road must be evaluated.
3. Air Quality: Dust from use of an additional road is a concern and must be evaluated.
4. Water Quality: The additional disturbed area may result in increased erosion and sediment possibly reaching Cataract Creek. Thus, the potential impact to the fisheries and water quality must be evaluated.
5. Recreational Use/Public Safety: Would the proposed road reduce conflict and increase the safety to public users of the Cataract Creek Road?

6. Socioeconomic Concerns: Concern has been expressed about the interaction between newcomer miners and the existing townspeople. There is also concern that mining has and will continue to divide the community into factions. The affect of mining on community economics and individual lifestyles for the long and short term was also a concern.
7. Environmental Compliance: Many residents are concerned about 2900's ability to implement an approved plan in a manner which complies with the plan as permitted and with state and federal mining statutes.
8. Reclamation of the A&P Heap: Prior to reclamation of the A&P heap, detoxification methods, and reclamation procedures must be defined.
9. Reclamation of the Proposed Haul Road: The reclamation of the haul road may be difficult because of soil types and southern exposure.
10. Visual: The possible visual impact due to additional surface disturbance from this proposal must be evaluated.

This analysis will address all of these concerns except for environmental compliance. Environmental compliance is beyond the scope of MEPA and NEPA, although it may affect decision-making, as described under agency responsibilities. Other state and federal statutes provide for specific enforcement and penalty actions to be taken by the agencies if environmental compliance is not demonstrated or maintained by an operator. In addition, the statutes provide for citizen actions in the event someone believes an agency is failing to fulfill its enforcement obligations.

E. Agency Responsibilities

All agencies (BLM, USFS and DSL) have participated in a joint review of this proposal. The following is a description of agency responsibilities.

1. Department of State Lands

The Commissioner of State Lands must decide whether to approve 2900's application as proposed, approve with modified mining or reclamation plans, or deny the permit, as required by the Montana Metal Mine Reclamation Act (MMRA) Title 82, Chapter 4, Part 3, MCA.

The DSL administers the MMRA which applies to state, federal and private lands. The purpose of the act is to provide that the usefulness, productivity, and scenic values of all lands and surface waters involved in mining and exploration receive the greatest reasonable degree of protection and reclamation to beneficial use. The act and its regulations (ARM 26.4.101 et seq.) set forth the steps to be taken in the issuance of an operating permit for and the reclamation of the applicant's proposed mine expansion. The act applies to private, federal and state lands within Montana.

DSL's rules (ARM 26.2.601 et seq.) implementing the Montana Environmental Policy Act (MEPA) (Title 75, Chapter 1, MCA) also require preparation of an environmental analysis. The Department has determined than an Environmental Assessment (EA) is appropriate for this project. This EA has several purposes:

a. It serves to ensure that the agency uses the natural and social sciences in the environmental design arts in planning and decision-making;

b. It assists in the evaluation of reasonable alternatives and the development of conditions, stipulations or modifications to be made a part of a proposed action;

c. It determines the need to prepare an EIS through an initial evaluation and determination of the significance of impacts associated with a proposed action;

d. It ensures the fullest appropriate opportunity for public review and comment on proposed actions, including alternatives and planned mitigation, where the residual impacts do not warrant an EIS; and

e. It examines and documents the effects of a proposed action on the quality of the human environment, and provides the basis for public review and comment.

The Commissioner may deny a permit only when it can be demonstrated that air and water statutes cannot be complied with and/or the reclamation plan as proposed is not feasible (82-4-351, MCA). A permit may also be denied if a person, or any firm or business association of which that person was a principal or controlling member has a bond forfeited (82-4-360, MCA) or for failure to reclaim an operation (82-4-341(6), MCA). 2900 has not forfeited any bonds under the MMRA and has not failed in its reclamation obligations.

2. United States Forest Service (USFS)

The District Ranger is the responsible official for approving Plans of Operation for certain mineral activities on the District pursuant to regulations adopted under the Organic Act. The Ranger must choose the preferred alternative and identify any necessary reclamation/mitigation measures that are needed to protect National Forest resources.

In addition, the USFS must satisfy the requirements of the National Environmental Policy Act (NEPA) and its supporting regulations. Those regulations are similar to state regulations noted above. The USFS also has responsibilities under its Forest Plan (Beaverhead National Forest, 1986), the National Historic Preservation Act, as amended, the Endangered Species Act, the Clean Water Act (for wetlands), and other environmental statutes.

The Beaverhead National Forest (BNF) Madison District is responsible for the portion of the proposed road east of the A&P Mine, extending east to the BLM/USFS boundary. The BNF is working cooperatively with the DSL under a Memorandum of Understanding (MOU) initiated with Region I on December 11, 1990. The Deerlodge National Forest (DNF) Jefferson District is responsible for the area of the A&P Mine and heap leach pad. The DNF has no action to approve, deny, or modify under this plan of operations. DNF jurisdiction is limited to the leach pad which was previously permitted.

3. Bureau of Land Management

The Bureau of Land Management (BLM) is responsible for the evaluation and regulation of mineral activities on public lands. BLM evaluates the activity through the National Environmental Policy Act of 1969 (NEPA), Federal Land Policy Management Act of 1976 (FLPMA) and in this case, BLM's Dillon Resource Area Management Framework Plan of 1979. BLM uses the 43 CFR 3809 regulations in preventing unnecessary or undue degradation of the public lands with respect to locatable mineral activities. Federal regulation 43 CFR 3809.3-1 provides for a joint federal-state regulatory program. Such a program was initiated May 9, 1984, by a MOU between the BLM and DSL. This agreement allows for joint agency analysis of the NEPA process as described in 1 (a-e) under DSL responsibilities.

For this proposal, BLM is responsible for lands in Section 22 and a portion of Section 23, T2S, R3W. This area includes portions of the road east of the Forest Service lands.

4. State Historic Preservation Office

The State Historic Preservation Office (SHPO) is responsible for cooperating with and advising DSL when potentially valuable historical, archaeological, or other cultural resources are located within a project area (Montana Antiquities Act Sections 22-3-401 through 22-3-442, MCA, and the National Historical Preservation Act [P.L. 89-665 as amended and re-authorized E.O. 11593]). Advice given to DSL may include comments on an applicant's plan for impact mitigation of sites eligible for nomination to the National Register of Historic Places. The office also reviews the EA or EIS to ensure compliance with cultural regulations.

The SHPO issues antiquities permits for projects on state lands. The office also seeks determinations from the Keeper of the National Register for sites believed eligible for listing on the National Register of Historic Places. During mine operation, DSL is responsible for monitoring compliance with historic preservation and monitoring plans.

The SHPO is also responsible for cooperating with federal agencies for any action on federal lands which may affect historic or cultural properties on those lands (National Historic Preservation Act).

5. Department of Health and Environmental Sciences (DHES)

a. Air Quality Bureau

The Air Quality Bureau (AQB) of DHES administers the Clean Air Act of Montana (Title 75, Chapter 2, MCA). Any proposed project with potential to emit more than 25 tons per year of any pollutant must obtain an air quality permit before construction. The applicant must apply Best Available Control Technology (BACT) to each emission source. The applicant must also demonstrate that the project would not violate Montana or Federal Ambient Air Quality Standards. This project is small enough scale that it does not have the potential to emit more than 25 tons per year of pollutant. Thus, an air quality permit is not needed.

b. Water Quality Bureau

The Water Quality Bureau (WQB) of DHES is responsible for administration of the Montana Water Quality Act (Title 75, Chapter 5, MCA), providing for the classification of surface waters, establishing surface water quality standards, and administering permit programs to control the discharge of pollutants into state waters.

A Montana Pollutant Discharge Elimination System (MPDES) permit must be obtained before any discharge to surface water may occur. The MPDES permit contains water quality limitations and requires self-monitoring of effluent by the permittee. Mining operations must also comply with Montana groundwater standards. CMC currently holds a GWPCS permit for the mill at Pony, and presently 2900 holds a GWPCS permit to operate a heap leach at the A&P Mine. The mine would be exempted from a GWPCS permit if it received an operating permit. However, this exemption applies only to additional paperwork. 2900 must still meet all applicable water quality standards when implementing its plan.

6. Department of Natural Resources and Conservation (DNRC)

DNRC administers two statutes that are applicable to mining development in Montana. These are the Montana Major Facility Siting Act [Title 75, Chapter 20, MCA (MFSA)] and the Montana Water Use Act [Title 85, Chapter 2, MCA (MWUA)]. The MFSA requires state approval before construction of any electrical transmission line that exceeds 69 kilovolts (kV) or 10 miles in length. A water rights permit is required by the MWUA for any surface water diversion or groundwater withdrawal exceeding 100 gallons per minute. No additional electrical transmission lines or water

rights are proposed or necessary for the implementation of this amendment.

7. Hard Rock Mining Impact Board

The Hard Rock Mining Impact Board created by the passage of the Hard Rock Impact Act (Title 89, Chapter 6, Part 3, MCA) is attached to the Montana Department of Commerce for administrative purposes. A quasi-judicial board, it is intended to act as a "referee" in hearing disputes between local government units and large-scale mineral developers over the impact mitigation plan prepared by the developer. In the impact mitigation plan, the developer identifies the increased public sector costs associated with major mineral development and commits to pay, according to a specified time schedule, all increased capital and net operating cost to local government units resulting from development.

2900 would continue to employ 15 to 18 people, therefore, an impact plan is not required.

CHAPTER II - PROPOSED PLAN AND ALTERNATIVES

A. Proposed Plan

2900 proposes to upgrade their reclamation plan for the existing heap leach pad at the A&P Mine, to construct a new haul road linking the A&P Mine to CMC's custom mill at Pony, and to transport approximately 10,000 tons of unprocessed, uncyanidated gold ore from the A&P heap leach pad site to the mill at Pony. The road would provide additional access to ongoing exploration and small miner activities in the area. Road and leach pad activities would be covered by reclamation bonds. These bonds are required to cover the cost of implementing the permitted reclamation plans. An approximate range of bonding for this project would be between $200,000 and $300,000.

1. Reclamation of the Heap Leach Pad

2900 proposes to neutralize the heap leach pad materials and ponds, fill in the ponds, re-contour and revegetate the pad. On-site agency review would be a part of each phase of reclamation planning and implementation. Initially, the existing heap leach pad would be sampled for cyanide (CN) content and a detoxification study would be conducted to determine the best method of detoxification for the heap. The barren pond would be detoxified by alkaline chlorination using lime and chlorine (Cl) until pond solution is at 1000 mg/L Cl. This solution would then be pumped on to the heap to neutralize the cyanide in the heap. Hydrogen peroxide would be substituted for chlorine when CN levels are reduced below 10 to 15 mg/L. As of September 16, 1991, the CN levels within the heap are 0.27 to 0.65 mg/L Weak Acid Dissociable (WAD[1]) (Norris Laboratory Analysis, September 16, 1991). Therefore, rinsing would be with hydrogen peroxide. The effluent from the heap leach pad would be monitored until the following spring for WAD cyanide levels, to assure cyanide levels are less than 0.22 mg/L. If these cyanide levels are not achieved, a plan would be developed using the information from both the initial sampling and additional sampling of the heap. The neutralized solutions would be disposed by land application when WAD Cyanide levels are lower than 0.22 WAD. Land application is the method of disposing of weak cyanidated solutions on to a designated land area. The solution is sprayed and then degrades through attenuation of metals in the soil column, and further oxidation of CN at the surface.

2. Haul Road

Approximately 14,600 feet (2.7 miles) of new sole-use ore haulage road would be constructed from the mine to the mill. The road would be constructed to a 16-foot width with appropriate turnouts and would disturb approximately 11 to 12 acres. If Mine Safety and Health Administration

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[1] This analysis includes free cyanide plus weakly bonded cyanide with metals and other chemical complexes. Reaching 0.22 WAD ensures that 0.2 free is obtained. The 0.2 free is the EPA Health Advisory limit.

(MSHA) requires a berm, the driving width would be reduced to 14 feet to accommodate the berm. The road location as stated in the proposal would start at the A&P Mine, in section 21, T2S, R3W and use approximately 2,000 feet of existing road to cross to the center of section 21 (Figure 2). This existing section of road would require upgrading. New construction would start at the intersection of existing road and the 8,000 foot contour near the center of section 21. The road would then be constructed along the 8,000-foot contour near the ridge top and across section 22, on into section 23. In the northwest corner of section 23 it would join the existing private road that leads to the Pony mill.

Since plan submittal, the proposed road location has been restaked to adjust for grade near the A&P Mine. The proposed road is now staked starting at the A&P Mine and crosses the existing road, rather than using any part of it. It then ties into the 8,000-foot contour interval as originally staked. This would result in all new road construction, rather than upgrading 2,000 feet of existing road. The surface disturbance will remain the same, because it was based on total road length.

An engineered road design will be submitted to the USFS for approval prior to road construction on National Forest lands. An as-built survey of the completed road will be submitted within 30 days of completion to DSL and BLM for other portions of the road.

The road would be constructed using standard practices of cut-and-fill with 1.5h:1v fill slopes (Figure 3). The road design would allow one way travel of 35-ton ore trucks using MSHA standards. All topsoil would be salvaged, stored in stockpiles, seeded during the interim, and retained for reclamation. All surface disturbances would be seeded as soon after the disturbance occurs as possible in order to minimize noxious weed infestation and wind and water erosion. Erosion control measures include the use of drainage ditches, culverts, water bars and seeding as specified by the agencies at the time of construction.

Heavy equipment required for the road construction phase would include two D-8 dozers (or equivalent), one large excavator (backhoe) and one road grader for finish work. The road construction phase of this project would employ approximately four people.

3. Ore Transport

Approximately 10,000 tons of ore would be hauled from the leach pad site at the A&P to the mill at Pony. This ore was used for ramp material in the process of constructing the heap leach pad. Prior to removal from the ramp, the ore would be evaluated for cyanide content under the guidance of the agencies. Ore which is not contaminated with cyanide would be loaded into three 35-ton ore trucks, using one 2 to 3-cubic yard front-end loader, and one D-8 dozer. Approximately 300 round trips would be required to remove the ramp material to the mill.

Figure 2. Proposed Haul Road and Alternative Routes

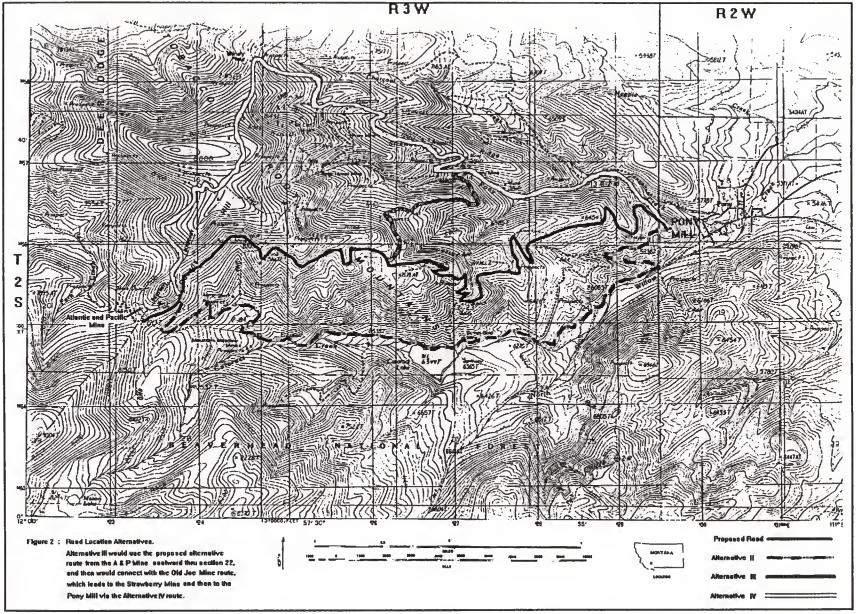
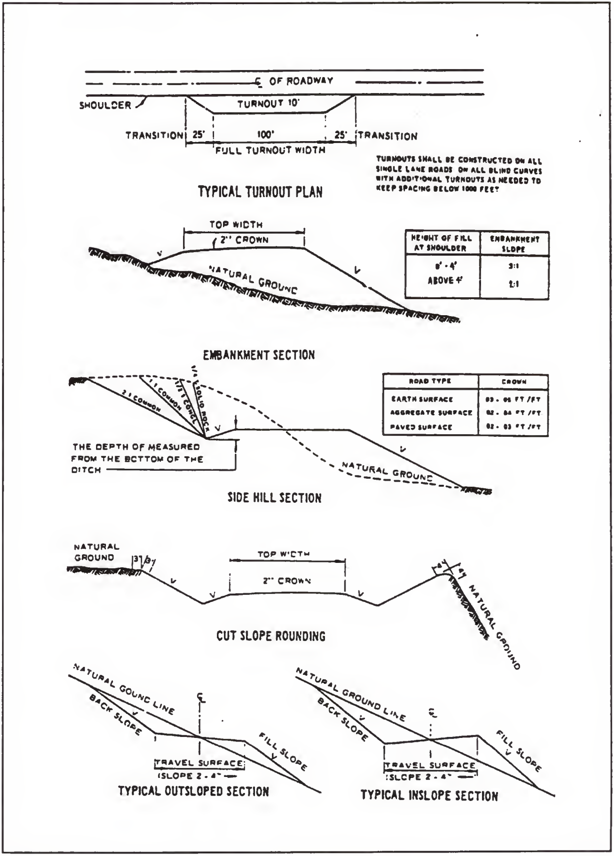


Figure 2 : Road Location Alternatives.

Alternative III would use the proposed alternative route from the A & P Mine eastward thru section 22, and then would connect with the Old Joe Mine route, which leads to the Strawberry Mine and then to the Pony Mill via the Alternative IV route.

Figure 3. Road Construction Detail



TURNOUTS SHALL BE CONSTRUCTED ON ALL SINGLE LANE ROADS ON ALL BLIND CURVES WITH ADDITIONAL TURNOUTS AS NEEDED TO KEEP SPACING BELOW 1000 FEET

HEIGHT OF FILL AT SHOULDER	EMBANKMENT SLOPE
0' - 4'	3:1
ABOVE 4'	2:1

ROAD TYPE	CROWN
EARTH SURFACE	03 - 05 FT /FT
AGGREGATE SURFACE	02 - 04 FT /FT
PAVED SURFACE	02 - 03 FT /FT

4. Other Development-Related Activity

Additional exploration activities may be undertaken at the Garnet, Mexican, Old Joe Extension, Golden Chariot, Chariot, and the United States claims (Figure 4) either by the claim holder or a contractor to the claimholder. 2900 may or may not be involved. Exploration disturbances could include reopening adits on the Old Joe Extension claims for underground sampling and drilling, and initiating surface drilling and sampling on the other claims. Heavy equipment used for surface exploration likely would include a D-6 or D-8 dozer, an excavator and a 12-cubic yard end dump truck. Underground equipment would include several underground drill rigs, jack-leg drill and compressor, and possibly a small Low Haul Dump (LHD). These exploration plans must be further developed and submitted to the agencies for review, completeness and analysis prior to decision making. It is estimated that an additional 2 to 5 acres of surface disturbance could occur from individual exploration activities of this type. The exploration phase of this project would likely employ approximately four to eight people from the existing workforce of 2900, plus possible drilling contractors.

The long-term plans for 2900 include further mining development once the ramp materials have been transported to the mill. However, specific plans have not yet been received by the agencies. 2900 may propose to haul the remaining heap materials to the mill. If this is proposed, the agencies would require a spill contingency plan to deal with loss of cyanidated materials from haul trucks, would review the plans, and would publish the appropriate NEPA and MEPA documents. 2900 may also propose to resume underground mining activities at the A&P and/or underground mining activities at other sites acquired from SMES or exploration license holders. Again, sites, locations, volumes, etc. have yet to be identified.

B. Alternatives to the Proposed Plan

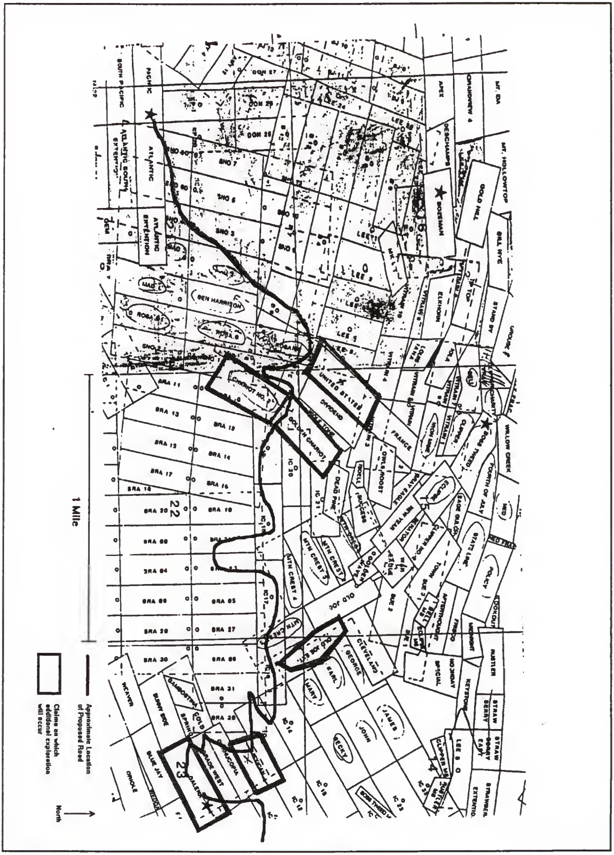
1. Alternative I - No Action

The no-action alternative would deny 2900's proposal to build a new, sole-use haul road to facilitate hauling of ore from the A&P Mine to the Pony mill. This alternative would be considered as a baseline to compare all other alternatives. Selection of the no-action alternative for this proposal would allow 2900 to use the Cataract Creek road in its present condition until its road use permit expires (August 1, 1992). Exploration activities which are already permitted would continue. New proposals would likely be unpredictable. Development of additional roads for access to exploration activities would be addressed on a case-by-case basis under the individual exploration licenses.

Advantages:

1. There would be no new disturbance from road construction, other than future exploration activity.

Figure 4. Claims with Expected Mineral Development Activities



2. Visual, topographical and any other potential impacts would be avoided. The potential impacts from the haul road would be avoided but exploration roads would cause similar disturbance.

Disadvantages:

1. Proposals from individual mines and prospects would be necessary to develop and explore claims along the proposed route.
2. Supply of ore to the mill could be restricted which may result in closing of the mill. Loss of jobs, taxes and families in the area could result.
3. Mixed traffic on the Cataract Creek road in its present state may be a safety concern.

2. Alternative II - Upgraded Cataract Creek Road Alternative

This alternative would utilize the Cataract Creek Road for the haulage of ore from the A&P Mine. It would also be used for the main road in which to access exploration targets and potential development activities along the north side of the drainage.

Cataract Creek road is the existing public access to the A&P Mine used by CMC and 2900. This road provides access to mining and exploration activities as well as recreational access to Strawberry Ridge and Windy Pass. 2900 is currently using this road for ore haulage, from the A&P Mine to the mill, through a joint road use agreement between 2900, the Forest Service and BLM. This road use permit expires August 1, 1992, or when the proposed road is completed, whichever occurs first (Appendix A).

The Cataract Creek road follows the creek bottom through section 22, T2S, R3W (Figure 2). The road then traverses the open hill side through section 21 and into a saddle in the northeast quarter of section 20. The A&P Mine is located in this saddle. The road continues on northward into the Strawberry Creek Drainage.

A private spur road is located in section 24 that connects the mill to the Cataract Creek road. This spur road allows ore trucks to by-pass the town of Pony and alleviates some of the exploration traffic through a portion of the town of Pony.

As the road leaves the stream bottom, in section 21, it would have to be re-routed across the open hill side to reduce the current grade. This would require approximately 3/4 of a mile of new road construction. This new construction would be completed in the same method and manor as described above in the proposed action.

Advantages:

1. There would be less total immediate surface disturbance than if the proposed route

were constructed.

2. The existing road would be upgraded, therefore possibly having less erosional effect and stream sedimentation than that which is currently is taking place.
3. Less short term cost to the operator.
4. No loss of timber resources.

Disadvantages:

1. Possible increased risk to public safety.
2. Possible degradation to riparian habitat.
3. Increased cost to operator once exploration activities are initiated.

This alternative is evaluated in Chapter IV.

C. Alternatives Evaluated but Dropped from Further Consideration

1. Alternative III - Strawberry Ridge Road

The Strawberry Ridge road starts at the town of Pony and follows the Charcoal Creek road for approximately one mile. It then traverses up Strawberry Ridge across sections 13, 14, and 15. This road connects with the Cataract Road at the A&P Mine (Figure 2).

If this route were used, extensive upgrading and re-routing of the road would be necessary to reduce the grade along the traverse of the ridge line.

Advantages:

1. Create better access to BLM land.
2. Visual impacts would be less.

Disadvantages:

1. The re-routing for grade reduction would affect areas of highest amount of timber harvest potential.
2. Possible increased risk to public safety.
3. Increased cost for exploration and mining due to haul distance.
4. Would require additional road building to access claims for exploration.

This alternative has been eliminated from further consideration for three reasons. The risk to public safety, from encounters with heavy mine equipment along the public access portion of the Strawberry Ridge road, would be greater under this alternative than under Alternatives I and II. Further, the Strawberry Ridge road reconstruction and additional exploration access from this route would create more disturbance than alternatives identified above. Lastly, rancher access to grazing

allotments would be more limited under this alternative.

2. Alternative IV - Pony Creek to Windy Pass

This alternative would involve using the existing road up Pony Creek to Windy Pass and then constructing new road across to the A&P (Figure 2). This alternative is very similar to the Strawberry Ridge Alternative. The advantages and disadvantages are considered to be the same as Alternative III; therefore, this alternative is not considered in this analysis.

CHAPTER III - AFFECTED ENVIRONMENT

The following description of the regional environment is adapted from the EA of 2900's A&P Mine completed July 6, 1988, by the DNF, from the DHES EA on the mill at Pony, completed in August 1989, from information contained in the application, and from site visits.

A. Topography and Geology

The project is located in the Tobacco Root Mountains of southwestern Montana. These mountains were formed during the uplift of several mountain ranges in southwestern Montana. The core of the Tobacco Root Mountains is composed of regionally metamorphosed Precambrian Archean rocks that have been intruded by diabase dikes of late Precambrian age and by igneous rocks of late Mesozoic and Cenozoic age. This activity has produced various faults and other structures in the rocks of the area. The A&P is located in a saddle that is the head of Park Creek on the west and Cataract Creek on the east (Figure 2). The Mammoth Fault Zone crosses through this saddle trending northwest/southeast. The A&P saddle is also the approximate contact between the igneous rock on the north and the Cherry Creek Gneiss on the south. The contact is approximately parallel with the fault.

The A&P Mine is at an elevation of 7,840 feet above sea level, about 2,000 feet above Pony. Hollowtop Mountain to the south, is the highest point in the area at 10,600 feet. The mountains in this area have undergone glaciation and associated morainal deposition.

Locally, 2900's proposed mining and road construction occur within the historic mining district of Pony. Mining activity in this district has fluctuated since the late 1800's. The historic mining operations in the vicinity of the A&P Mine and along the proposed route have left numerous excavated pits and placer channels along both sides of the drainage.

These excavated pits and placer channels are located in the complex assortment of folded and faulted Precambrian, Paleozoic and Mesozoic sedimentary rocks intruded by large granitic stocks. Sedimentary rocks surrounding these stocks have been metamorphosed. A veneer of glacial till, lake and glacial water-derived sediments fill the valley bottoms forming the channels of waterways and tributaries. Further down stream toward the town of Pony, sediment from sluicing and mine tailings are deposited below the historic mining operations and along creek sides.

The proposed road would traverse through outcrops of metamorphic Archean rocks and the late Mesozoic granites. Several prospects sites were observed along the route with only slight sulfide mineralization noted in grab samples. No geologic hazards were observed during field inspection of the proposed route. The slope angle along the route range from 30 to 60 percent, with the road crossing several flat ridge lines and saddles.

B. Hydrology

1. Surface Water

The proposed project is located in the Cataract Creek drainage west of Pony, Montana, on the northeasterly slopes of the Tobacco Root Range. Cataract Creek is a third order tributary draining east to Willow Creek, and Willow Creek to the Jefferson River. The maximum elevation of the mountainous watershed is over 10,600 feet. The slope of the terrain averages 10 to 60 percent in the vicinity of the project area, while stream channel gradients are generally 2 to 12 percent.

Surface water in the vicinity of the proposed project is variable depending on snowmelt and local rainfall. Streamflow gauging stations located on other streams in the area indicate extreme fluctuation in seasonal flow.

2. Surface Water Quality

Surface water chemistry is comprised of a calcium bicarbonate base with some sulfate. Specific conductance values are low, water is generally soft to moderately hard and of good quality. Trace metal concentrations are generally below respective detection limits. At times, metal concentrations are elevated slightly above the respective detection limits which appears to be due to water dissolving the metals from sediments and tailings disturbed during previous mining.

3. Groundwater

Groundwater information in the vicinity of the proposed project is limited. Baseline inventories by the company indicate typical mountain springs scattered throughout the area. Most are likely tied to a confined aquifer system in the diorite or paleozoic bedrock and sedimentary formations. A groundwater discharge point identified at the adit immediately below the A&P Mine indicates relatively low infiltration of snowmelt and precipitation upslope. Small discharges from abandoned adits and springs flow intermittently from hillsides and through streamside areas. Some marshy rivulets dry up in later summer or fall, suggesting recharge is generally respondent to snowmelt and local precipitation more so than constant fracture-controlled spring discharges. A dry monitoring well at the A&P Mine, completed to 80 feet deep, suggests lack of a water table along the ridges and saddles of the proposed route.

4. Groundwater Quality

The groundwater chemistry is a calcium bicarbonate type, similar to the surface water. Specific conductance values are moderate, the water is soft to moderately hard and is of good quality. Dissolved metals concentrations are generally below method detection limits with the exception of

copper and zinc. It is likely that surface water infiltration and migration through the fractured bedrock and disturbed ground results in the increased dissolved metals concentrations. Sulfates are in higher concentration in the discharge from the adit below the A&P Mine. Surface infiltration is likely controlled by these fractured zones.

C. Soils

Soils across the project area are residual. The surface layer is thin (0.5 ft. to 1.4 ft.) and contains coarse fragments ranging in size from angular gravel less than 3 inches in diameter to angular cobbles less than 6 inches in diameter. The surface layer ranges in texture from a gravelly silt loam that is sticky and plastic to a gravelly loamy sand that is non-sticky and non-plastic. There is a transition to weathered bedrock at the C horizon, composed of granite-gneiss and quartz over fractured rock, which would require ripping to excavate. The soil is slightly cohesive but non-plastic in general, and no clay horizons were encountered.

D. Range and Vegetation

Regionally, the north end of the Tobacco Roots Mountain is separated into three major vegetation communities that are gradational, through elevation changes. The upper reaches of the mountain range is a glacial valley, subalpine fir and small douglas fir environment that grades into a douglas fir/lodgepole community at mid-elevations. The lower reaches of the mountain range is semi-open to open, douglas fir/lodgepole, big sagebrush grassland communities that grade into open grassland and pasture in the river valley floor.

Along the upper reaches of Cataract Creek, the riparian zone is comprised of narrow stands of aspen, alder and willow, inter-mixed with douglas fir and small spruce. The lower portion of the creek, just above Pony, has large cotton-wood trees, thick stands of aspen, willow and alder.

The proposed road would traverse a south facing hillside vegetated primarily by big sagebrush Idaho fescue and bluebunch wheatgrass communities. This area also contains stands of douglas fir and limber pine that are most prominent along the north and southeast facing slopes.

Commercial logging activity in this area is low. Currently, there are no timber sales scheduled for this area by the federal agencies.

There are no known threatened and endangered plant species that occur along the proposed route or within the Cataract Creek drainage.

Potential habitat may occur for Penstemon lemhiensis and Cirsium subniveum. A comprehensive sensitive plant inventory will be conducted in June. If either species is found, the

right of way will be adjusted to avoid eradicating any sensitive plants.

The general area along the proposed route is managed by BLM and the USFS for cattle grazing through the Strawberry Ridge Allotment. Active grazing preference on public lands within this allotment is established at 294 AUM's.

E. Wildlife and Fisheries

1. Regional

A variety of wildlife habitats are prevalent throughout the Tobacco Roots Mountain Range. Relatively dry douglas fir/big sagebrush/grass and forb communities, high elevation mountain lakes, meadows, rock faces, alpine tundra, spruce, subalpine fir and talus slopes are found on the higher elevations. Riparian bluegrass/willow bottoms surrounded by steep bunchgrass/big sagebrush and timbered hillsides are found along the lower reaches of the range.

Little information is available about the macroinvertebrate, fisheries or other aquatic life in Cataract Creek. Lower reaches of the stream and Cataract Creek Reservoir are known to sustain cutthroat, brown, rainbow and brook trout.

For a detailed description of threatened and endangered species, see Appendix B, Threatened and Endangered Species Biological Assessment, completed by BNF in 1991.

2. Local

In addition to the outlined wildlife values, a wildlife reconnaissance route to estimate wildlife use indicated that elk and mule deer make frequent use of this area. Most of the elk use is occurring during the spring, summer, and fall periods. The mild winters during the last few years have enabled the elk to make some use of open ridge tops during the winter as well. Mule deer use this area year round. No current population counts are available for this area. However, due to mild winters, both elk and mule deer numbers are probably up from previous years. Well-established game trails are evident all along the N½ of sec. 22 and NW¼ of sec. 23, T2S, R3W. Use patterns suggest that elk and mule deer use south-facing slopes and moist meadows to feed, then move into the timber during the daylight or during cold weather.

Moose use is evident in riparian areas, aspen sites, and in the spruce types during the winter. Moose movement between the Pony Creek drainage and the Cataract Creek drainage are facilitated by the use of the many saddles along the ridge top.

Significant sage grouse sign was also noted, indicating at least a seasonal preference for this

area. Most sage grouse use is restricted to the spring and summer, but some fall and minor winter use appears to be occurring. Most sage grouse use is found along the grassland/sagebrush slopes. However, due to lack of favorable wintering habitat in this area, sage grouse populations are probably quite low.

A great gray owl roosting site and possibly a nesting site is located in the center of sec. 23, T2S, R3W. Great gray owls are listed under Montana's species of special interest or concern (Flath, 1984).

This area provides adequate habitat for blue grouse. This habitat is found along the timber and open sagebrush boundary near the ridge lines. The number of blue grouse that occupy this area is not known.

Black bear, mountain lion, bobcat and coyote are known to use the area, but their numbers are unknown.

The upper elevations of the Tobacco Root Mountains contain a mountain goat population. The proposed action does not involve this goat habitat.

Overall this area provides a good variety of habitats and many of these have the potential to be high quality habitats for many species.

F. Air Quality and Climate

1. Air Quality

There has not been any air quality monitoring performed in the project area; however, the baseline air quality can be assumed to be typical of natural background levels generally found in western Montana given the lack of significant emission sources in the immediate area. Air pollutant levels should be well below all applicable state and federal ambient air quality standards. Minor sources of air pollution in the area include mining and exploration activities and vehicle traffic on unpaved roads. In the immediate Pony area, there would be slightly higher emission rates due to possible higher traffic levels, home heating and the operation of the Pony mill.

The project area is designated as Class II under the Prevention of Significant Deterioration (PSD) regulations. There are no nearby Class I areas.

2. Climate

The climate of the area can be described as modified continental. Pacific Ocean air masses,

drainage of cooler mountain air into the valleys, and the shielding effect of the mountains modify or lessen the temperature changes typical of true continental climates.

The annual precipitation for the area is about 35-40 inches, most occurring as snowfall from October through April. The area can receive several feet of snow annually. Snowmelt generally occurs earlier on southerly aspects with monthly percentages of annual runoff of 5 percent in March, 5 percent in April, 20 percent in May, 35 percent in June, 15 percent in July, and 5 percent in August, with the remainder distributed evenly among the remaining months.

Predominant winds in the area are from the west. Local topographic features also influence the wind direction and speed. During periods of maximum solar heating air flows would tend to be channeled up drainages. At night or during periods of cooling, the opposite would occur. In the project area these down-drainage winds would be enhanced by the predominant westerly flow.

G. Land Use

Locally the historical land use for the Cataract Creek area was mining, ranching and logging. Mining activity dissipated in the 1920's due to various economic conditions. Ranching now predominates along the Madison River valley, while logging has taken place in the Cataract Creek area.

In the mid-1980's an increase in the price of gold brought new exploration and mining activity to this area. The price of gold is now much lower (approximately $350/ounce) with concomitant curtailment or slowing down of mining activity throughout Montana.

Currently, the area is jointly used by the ranching, mining and recreational communities. Recreational opportunities are moderately utilized in this area in the form of four-wheeling, hunting, fishing, backpacking and solitude enjoyment. The A&P minesite itself is located on private land. The heap leach pad is on DNF lands. The proposed road would traverse USFS, BLM, and private lands used primarily for grazing.

H. Aesthetics

1. Visual Quality

The Visual Quality Objective (VQO) for the BNF's Management Area #1 is modification unless a portion of the Management Area is specifically recognized as a "sensitive viewing area,' which for this proposal, it is not. This means the area can accept visual modification.

The VQO for BNF's Management Area #4 is to adhere to management practices to the extent

possible following guidelines for adjacent and surrounding Management Areas. Management areas 16 and 22 are near the proposed action. The VQO for Management Areas 16 and 22 are: modification or maximum modification, and modification, respectively.

2. Noise

Noise can generally be defined as unwanted sound. Some of the factors which might influence whether or not a sound is unwanted include:

1. The overall total sound level (generally measured in decibels (db));
2. The time period, duration, and frequency of occurrence; and
3. The sound-wave frequency (higher frequencies being generally more irritating).

Sound levels have not been measured in the area, but it is assumed the levels are typical of rural settings and small towns - about 40 to 50 db. Current sources of sound (noise) would include vehicle traffic, mine-related equipment, farm equipment, aircraft, chain saws and firearm discharge. Sound levels in Pony may be slightly higher due to increased vehicle traffic and equipment operation at the Pony mill. (See Appendix C for noise level comparisons.)

I. Socioeconomic Conditions

The town of Pony is a small rural community of 30 to 40 people located in central Madison County. The county's population is approximately 5,400. Children from Pony are bussed to the school at Harrison which has a K-12 student population of 127. There is limited room for expansion, up to an additional 20 students with the present facilities. The main employment is a mixture of ranching, mining, and independent merchants. In 1989 there was an up-swing in the economic base of the community with the construction of the CMC custom mill. This mill, located just northwest above Pony, is a cyanide vat leach operation with a maximum capacity of 500 tons per day (tpd). Its operator, CMC, is actively seeking new sources of ore for the mill. The mill currently employees 15 people from around the commuting area. Tourism and retirement formed the major economic base prior to the construction of the mill (DHES, 1989).

2900 operates the A&P Mine and employs 5-10 people from the Pony area. This mine is an open pit operation with potential for underground development. Currently this mine is operating under a SMES from DSL. The ore reserve base for this mine is estimated by 2900 to be 100,000 tons.

J. Cultural Resources

The proposed federal undertaking lies within the Pony Multiple Resource Area, a property

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listed on the National Register of Historic Resources.

The "... Multiple Resource Area includes two historic districts and one individually-eligible property. The Pony Historic District encompasses the historic commercial, residential, public, and industrial buildings within the Pony townsite and extends to include the W. W. Morris residence and the millsite of the Jeanette Mining and Milling Company. The second district encompasses the Strawberry Mill as well as several structures associated with it: a dwelling, two ore bins, and an adit. An historic explosives storage house located safely away from the town constitutes the individually-eligible property" (Fiege, Mark T. - 1985).

An extensive Class III Cultural Resource Inventory was conducted by the BLM in the area of potential impact. No cultural resources were found during the course of the file search or the Class III inventory within the proposed road limits. The USFS-BNF also conducted a Cultural Resource Survey/Inventory of the portion of the road on USFS lands. The USFS survey results concur with that of the BLM.

CHAPTER IV. ENVIRONMENTAL CONSEQUENCES

The following section identifies the environmental consequences resulting from implementation of the proposed alternative, the no action alternative, and the upgraded Cataract Creek Road alternative.

A. Topography and Geology

1. Proposed Action

The proposed action would create both short-term and residual impacts as a result of construction of the proposed road. The road traverses moderate to steep hillsides with slope angles up to 60 percent. This would create large fill slopes and potential areas of erosion. The change in topography from an open hill side to cut-and-fill road would be short term, 5 to 20 years, assuming the project is completed as presently envisioned. The road would be reclaimed to approximate original contour having no significant long-term impacts associated with road construction.

Hauling ore to the mill for vat leaching facilitates reclamation of the A&P heap leach site by reducing the amount of material left for reclamation. Continued hauling by amendment further reduces material volume left for reclamation.

2. No-Action Alternative

The no-action alternative would leave topography and geology along the proposed route in its present natural condition. This alternative may ultimately result in upgrading of the Cataract Creek road and construction of approximately 3/4 of a mile of new road along the Cataract Creek route.

The A&P heap volume reduction would have to occur before August 1992.

3. Upgraded Cataract Creek Road Alternative

The Cataract Creek Road alternative would require additional upgrading of the road. There would be a re-routing of the upper portion of the road to a lesser grade; additional subgrade and surface material and culverts would also be necessary to make this a long-term haul road.

Once exploration activities are initiated, there would most likely be additional traffic on the road and more visible disturbance along the main Cataract Creek road itself. This alternative would allow the geologic and economic mineral resources to be evaluated through the exploration and mining activities.

Reduction of A&P heap volumes would still occur.

Under this alternative, there are no significant impacts to topography and geology of the area.

B. Hydrology

1. Proposed Action

The proposed road does not cross any perennial stream channels. While the road may alter some local runoff and infiltration relationships and thereby affect the area contributing to transient surface flow, the impacts are considered negligible given the small area of disturbance relative to the overall drainage basin area.

Segregation of ore, topsoil and waste rock may alter local runoff characteristics. These changes are considered localized and would have no measurable affect on the hydrologic system.

There are no expected changes in the quality of the ground or surface water, therefore there are no significant impacts to this resource.

2. No Action Alternative

Under this alternative, there would be no long-term significant impacts to the hydrology of the area. Use of the Cataract Creek road would continue until the road-use permit expired. Short-term sedimentation may occur sporadically. See discussion in 3. Cataract Creek Road Alternative.

3. Upgraded Cataract Creek Road Alternative

Under this alternative, the impacts to the hydrology of the area would be like those stated in the proposed action, with the exception that there would be a greater possibility of sedimentation loading to Cataract Creek, due to the proximity of the activity to the creek.

Under this alternative there are no significant impacts to the hydrology of the area.

C. Soils

1. Proposed Action

Road construction would cause destruction and homogenization of the established soil horizons. Soil materials would be stockpiled and seeded for use in road reclamation. It is anticipated that the quantity and quality of soil saved and ultimately replaced would be adequate to provide for an

acceptable level of stability and productivity.

2. No Action Alternative

Under this alternative, no disruption of the soil resource along the proposed route would occur. Some additional disturbance along the Cataract Creek road may occur if road improvements are specified.

3. Upgraded Cataract Creek Road Alternative

Under this alternative, the greatest soil loss would occur during the re-routing of the upper portion of Cataract Creek road and during the road building for access during the exploration phase. The impacts would be those as described in the proposed action. This would be a short-term impact because reclamation would be required for this activity.

This alternative would have no significant impact to soils.

D. Range and Vegetation

1. Proposed Action

The proposed action would result in the disturbance of 11 to 12 acres. Native vegetation along the route would be destroyed. Ultimately, recontouring and revegetation of the road would result in a strip of vegetation of similar species composition and would provide similar function as that of the surrounding country. The impact to the area's carrying capacity would be minimal, estimated at 2 to 4 AUM.

Timber removal would also be minimal, with the harvest of 30 to 40 commercial-grade trees during road construction.

Construction of the road would create unvegetated and initially poorly-vegetated areas that would be susceptible to weed invasion. Spotted knapweed, a state-listed category I noxious weed, is particularly well adapted to exploit these kinds of disturbances. An aggressive weed control program would prevent successful invasion of the area by this weed and other noxious weeds. Conversely, poor weed control could result in the introduction of noxious weeds into areas where it is not presently established.

Impacts to range and vegetation are expected to be relatively short-term and non-significant. Reclamation of the road is feasible. Recontouring of the road would be followed by placement of soil by a tracked excavator. Soil placement would be followed by seeding and mulching either with a

hydroseeder, or by broadcast. Vegetation establishment would probably follow several successional communities, over a period of years, from an initial stand dominated by annual and biennial weedy species with a grass understory, to a community dominated by the seeded species, to a community that is ultimately invaded by native herbaceous and woody species from the surrounding land.

2. No-Action Alternative

This alternative would result in no disturbance to range and vegetation along the proposed road route. Some additional disturbance along the Cataract Creek road may occur if road improvements and re-routing are permitted.

3. Upgraded Cataract Creek Road Alternative

Impacts to range and vegetation under this alternative are expected to be the same as those described in the proposed action. The total area of disturbance for this alternative is approximately 3 to 5 acres for re-routing and 5 to 8 acres for exploration activities.

This alternative would have no significant impacts to range and vegetation.

E. Wildlife and Fisheries

1. Proposed Action

Construction of the road would remove 11 to 12 acres from the habitat base of wildlife populations. The proposed road would isolate the elk feeding areas from the security-cover areas. Elk would be displaced from most of the area of the proposed route as long as mining activity was ongoing. Mule deer, moose, and sage grouse would be negatively impacted. However, they would not be totally discouraged from using the area. Deer would probably be displaced to a much lesser extent since they have shown an ability to acclimate to repetitive human disturbance, such as ore haulage on the road. Therefore, winter use of the area by deer is not expected to be significantly affected.

The proposed route would cross some blue grouse habitat along the edges of Douglas fir communities. These areas could be impacted and the affected grouse may be displaced.

Possible impacts on Great gray owl would be minor. The road is not known to be close to roosting and nesting areas.

Other wildlife populations which use the area would be impacted to the lesser degree since they are either far-ranging and dispersed species or small mammals with relatively dense, common

populations.

This proposal would have no impact on fishery resources.

2. No-Action Alternative

Wildlife would continue to use the area at the current level. Some temporary displacement of elk could result if exploration started. This displacement could become long term if exploration was done on a daily basis.

3. Upgraded Cataract Creek Road Alternative

Under this alternative, initial impacts to wildlife and fisheries would remain about the same level as under the current mining activity. These impacts could increase as new roads are established for exploration.

Displacement of wildlife from certain areas would depend on the frequency of activity along exploration roads. The combined impacts of new road construction and the anticipated exploration activity are expected to be similar to those described in the proposed action. The acreage of wildlife habitat disturbed would be less (3 to 8 acres for re-routing of road and 5 to 8 acres for exploration activities).

The fisheries habitat is not expected to be greatly impacted from this alternative. There will be some sedimentation, erosion, and turbidity increases due to road use and construction. If Best Management Practices (BMP's) are used, potential impacts will be minimal.

Under this alternative no significant impacts are anticipated for wildlife and fisheries.

F. Air Quality and Climate

1. Proposed Action

The primary air pollutant of concern with this project is particulate matter (dust), primarily from vehicle traffic on the road and, to a lesser extent, road construction activities. Based on the proposed tonnage to be hauled, maximum particulate emissions are estimated at less than 5 tons per year. The proposal also contains a commitment to water the road surface on an as-necessary basis to minimize fugitive dust emissions. There would also be a relatively small amount of gaseous pollutant emissions related to vehicle exhaust. Overall impacts to air quality that would result from implementation of the proposal should be minimal.

2. No-Action Alternative

Air quality conditions and impacts would be very similar to the proposed action of both alternatives. Under this alternative the specific areas of possible impact would shift to the existing roads which would probably be used, but the quantity of emissions should remain about the same, at least in the short term.

There would be no impact to climate as a result of this alternative, given the relatively small amount of emissions.

3. Upgraded Cataract Creek Road Alternative

Air quality conditions and impacts would be similar to the proposed action. Possible impacts would be the result of using the existing road with its modifications and upgrades. The quantity of emissions would remain approximately the same.

G. Land Use

1. Proposed Action

There would be approximately 11 to 12 acres of disturbance for the proposed road, which currently is used for grazing. The proposed route would be maintained by 2900 and would be a sole-use road for the company for mining activities. Regulatory agencies would also use the road for compliance and land management activities.

2. No-Action Alternative

The no-action alternative would maintain the level of usage that currently exists, therefore, impacts to Cataract Creek would continue but no new impacts are expected.

3. Upgraded Cataract Creek Road Alternative

Impacts resulting from this alternative under land use are as those describe in the no-action alternative.

H. Aesthetics

1. Visual Quality

a. Proposed Action

There would be some long-term impacts to visual quality due to the proposed action. On federal lands this project would create short-term impacts during the life of the road. The road scar would be visible even after revegetation of cut-and-fill slopes. Long-term impacts would remain for many years even after final reclamation, but would be muted. A line of vegetation different from the native vegetation would be discernable. Portions of this new road would be visible from Cataract Road.

b. No-Action Alternative

Under the no-action alternative the visual quality will remain the same as it is at present.

c. Upgraded Cataract Creek Road Alternative

Under this alternative impacts would be as in the no-action alternative until exploration activities were initiated. There would be increased road construction associated with exploration activity, portions of which would be visible from the Cataract Creek road.

No significant impacts to aesthetics are anticipated from the alternative.

2. Noise

Under both alternatives, dispersed recreation users in the area would be more aware of the mine activity because of the disturbance and noise. Heavy equipment, drilling and blasting would be heard for some distance because of the mine location and prevailing winds. Under the no-action alternative, this impact may be of a lesser timeframe (1 to 5 years), while the activity is occurring.

The proposal contains a commitment that all hauling equipment would be properly equipped with highway-legal mufflers to minimize noise.

I. Socioeconomic Concerns

1. Proposed Action

a. Advantages/Disadvantages to 2900

Economic concerns were raised as a scoping issue. The major benefit to the company is profit after expenses and taxes. But within the mining community there is also a pride of producing something useful that provides support for the local economy and contributes to the gross national product. 2900 and CMC would benefit from both of these factors if the mine and mill continue to operate in a profitable manner, supporting local families and businesses, and maintaining a good working and natural environment.

b. Advantages to Local Area and to the State

Benefits to the local area and the state derive from the employees and families retained and brought into the area. The present base (ranching, mining, tourism, and retirement incomes) does not provide additional support for families and businesses. Expanded mining provides this support for families, businesses and additional vendors in state and out of state.

c. Disadvantages to Local Area and to the State

Traffic and public safety are in confrontation at present on the Cataract Creek road. The mitigating measure being used (pilot car for the ore trucks) is proving adequate, but separating the public traffic from the mining traffic would alleviate this confrontation.

The volume of traffic through Pony could increase. The mine and haul road would not be open to the public. The proposed road will be gated and any access points crossing its route will be "blocked" and posted. The gates will be established to allow public access to the Strawberry Ridge road via the Cataract Creek road (See Location Gate A, on Figure 2).

Other disadvantages are found under the next section "Social Concerns".

d. Social Concerns

This concern is derived from the relationship between the established retirement community and the mining community. The retirement community wants to maintain the rural and old mining setting of the area and keep tourism and retirement as a large part of the economic base.

Other social concerns, such as the behavior of the mining community toward the established

premining community and visa versa, involve interrelationships between people. Those in the community who are opposed to change or to mining would be unhappy with the proposed development. Those supportive of change would be pleased with the effect further development would have on the economic base in the community and the availability of jobs.

2. No-Action Alternative

a. Advantages/Disadvantages to 2900

There are no benefits to 2900 under this alternative. However, 2900 would continue to use the Cataract Creek road until the road-use permit expires. This would provide a short amount of time for 2900 to research other alternatives for supplying the mill with ore.

b. Advantages to Local Area and to the State

There are no benefits to the State under this alternative. Some local area residents are benefitted by maintaining a more pre-mining environment for the area of Pony (see d. Social Concerns).

c. Disadvantages to Local Area and to the State

The tax base of the county and state would remain at pre-mine levels. The state would be providing less opportunity for families to settle.

Public safety would continue to be an issue with haulage on the Cataract Creek road.

d. Social Concerns

Some local residents desire to maintain the pre-mining rural environment. This alternative would better fulfill these expectations. Possible confrontations between miners and those residents who regard the mine as less desirable would be avoided. This only applies if 2900 were not successful in finding another alternative for supplying the mill with ore, thus shutting down the entire operation.

J. Cultural

Under the proposed action and the two alternatives, cultural resources will not be affected.

No significant impacts to this resource is anticipated from either the proposed action or the two alternatives.

CHAPTER V - CUMULATIVE EFFECTS

Under this chapter, a description is given of the major activities that are planned, proposed, or could develop in the Cataract Creek drainage and surrounding area. The projected combined impacts from the activities are then related to the resources that have been identified as issues by the public or the agencies.

A. Major Activities Planned, Proposed, or Projected

1. Mineral Development

a. Mining

The A&P Mine is currently an open-pit operation with the potential for underground development. A complete mining plan for the A&P Mine has not been developed. 2900 estimates that the mine contains 100,000 tons of blocked-out reserves which have the potential to be mined by open pit and underground methods.

The geologic impacts of the open pit will be the loss of a non-renewable resource. There may be a geologic and potential safety hazard from the highwall of the pit at the A&P. The projected size of this hazard is estimated to be less that five acres. This is based on the location of the available open-pit reserves. Under MMRA, the final reclamation plan is required to protect public health and safety.

The development of the mine pit would result in insignificant pit inflow from surface runoff due to the minimal drainage area above the site. Likely waste rock would be evaluated for its potential to produce acidic waste-water outflow. The waste rock dump's potential to produce acidic waters will dictate reclamation procedures.

The current disturbance at this site is approximately 11 acres. There is potential for another 10 to 20 acres of disturbance if full development of the reserves are mined. This is based on the potential expansion of the open pit and underground development. It is estimated that the operation would employ 4 to 8 people. Using the proposed road as its haul route, there could be up to 17 trips per day to the mill. This would supply the mill with its full daily operating capacity. If other operations were hauling as well, the number of trips could be reduced.

If open pit mining is proposed and permitted at the A&P, there could be impacts from erosion, sedimentation, noise, dust, traffic, surface disturbance, to surrounding resources. Mitigation measures would be developed during the analysis of a plan, prior to expansion beyond the SMES, which would lessen possible impacts.

If the old heap leach material proves profitable to haul and 2900 proposes to do so, an additional 30,000 tons of ore could be hauled. This would extend the mine life an additional 60 to 70 days. 2900 would submit an amendment to propose the additional hauling and continue using the haul road. There would be no significant impacts from hauling this ore. Potential effects of spillage from the haul trucks could be limited by requiring 2900 to have the capacity to implement contingency plans prior to implementation of a hauling plan. Other effects remain the same as identified above for hauling ramp materials.

The Amy Mine is just north and west of the A&P Mine. The operators for the Amy Mine had previously submitted and withdrawn a plan of operations. Currently they have submitted a plan of operation to the USFS-DNF. This plan is being revised to include use of the proposed road and haul method as described in this proposed action. This revision would lessen the impacts the Amy project could have on the resources in the area. This plan has not been approved as of this date. The Amy is planned to be a 100-tpd open-pit operation. The Amy is projected to have 150,000 tons of reserves and an estimated mine life of 5 to 10 years. When and if the plan is resubmitted to DSL, the agencies would likely complete a joint review and MEPA/NEPA evaluation. The haul scenario for this operation is projected to be three to four haul trips per day, 5 days per week, with a 9-month operating season.

Approximately 20 to 30 acres would be disturbed for the Amy project over mine life. The number of employees for this project is estimated to be 4 to 6, some of whom will likely come from 2900's workforce.

The Nicholson Mine, located south and west of the A&P Mine is another small mine in the area. A plan of operations for this mine has also been submitted to the agencies and is currently being reviewed.

The Nicholson would likely be a 30- to 50-tpd underground operation with a projected mine life of 10 years. The haul route for this mine has not been finalized as of this date, but is likely to be the South Willow Creek Road. The 6- to 10-cubic-yard end-dump trucks, would make 3 to 5 trips per day during a 75 day operational season.

Other mines in the area are located along Strawberry Ridge, just north and west of the Pony Mill. These old workings and prospects are currently permitted for exploration activities. Some ore has been mined for bulk sampling. These individual projects in the Strawberry Ridge area are estimated to have disturbed 3 to 5 acres at the actual site and an additional 10 acres for new or improved road access. The projected disturbance is expected to continue to be the same with 3 to 5 acres per year, and access acreage to diminish slightly. This activity could continue at this rate, for the next 10 years. Future mining activity would require separate application by the operator for each project. Provisions would be made for reclamation of mining disturbances and appropriate bonding

would be required upon evaluation by regulatory agencies. Bond would likely be somewhere between $5,000 and $10,000 for the smaller sites.

Other mines along the east front of the Tobacco Roots may be stimulated to institute or renew production if the Pony Mill is able to continue operating. Possible disturbance from this peripheral development is not quantifiable or predictable at this time. If this occurred, existing highways and public roads would likely constitute the bulk of the haul roads.

b. Exploration

Mining and exploration are historically part of the Pony area. Several claimants and one other company are conducting mineral exploration activities in the Cataract Creek area. Exploration activity will be an on-going activity for the foreseeable next 5 to 10 years and probably beyond.

The proposed action already discusses potential exploration targets on the Garnet, Mexican, Old Joe Extension, Golden Chariot, Chariot and United States claims. This exploration would likely result in the reopening of adits in the Old Joe Extension for underground sampling and drilling. The other claims mentioned may be evaluated by surface drilling and sampling. This surface exploration would probably require the construction of exploration spur roads and drill pads disturbing approximately 2 to 5 additional acres. Heavy equipment required for surface exploration might be a D6 to D8 dozer, excavator and dump truck. Underground equipment might include jack-leg drill rigs, compressor and possibly a small LHD. Any future exploration activity would require separate application by the company for each project, and evaluation and approval by the regulatory agencies. Provision would be made for reclamation of exploration disturbances and appropriate bonding would be required. This exploration would employ approximately 4 to 8 people from the existing 2900 workforce.

The above-mentioned claims are some of the several hundred claims that are recorded in the area extending from the South Boulder River to Pony. All of these claims have recorded or completed assessment work on an annual bases since they were staked; for most of them, that extends back to the late 1800's to early 1900's.

Most of this assessment work and future exploration activity in the area will most likely be concentrated along the Strawberry Ridge area, with isolated exploration around the above-mentioned mine areas.

It is projected that surface disturbance for exploration activity could involve 1 to 3 acres at a time with a duration of 1 to 2 weeks per project. This most likely would involve only a few people at a time, i.e., a drilling company or the claimant.

Because of the lack of geologic information on the current economic mineral potential of the area, projected development due to exploration activity would be highly inaccurate and speculative. Any proposal for development must be submitted to the appropriate agencies and MEPA/NEPA evaluations would be conducted prior to decisionmaking.

c. Summary of Mineral Development

There would be no additional impacts created by the operation of the Pony Mill. The impacts that are currently created by noise, dust, erosion, sedimentation and traffic would continue in a like matter with or without approval of activities proposed by 2900. Under the proposed action, impacts from traffic would be reduced because of the sole-use road for that traffic related to mineral development. However, noise levels at the mill would likely become more sustained if all potential mine development were to occur concurrently.

The mill's operation would not contribute significantly to the cumulative effects because of its physical separation for most of the above-described activities.

Cumulative effects from mineral development are based on several items: the capacity of the Pony Mill, mine life, production rate, reserves of the given operation and the impacts from the actual mining of the ore.

Based on the combined maximum operational levels of the above-described mineral development activities, the following impacts could occur.

The Nicholson Mine could produce 3,750 tons of ore during its operational season. This equates to approximately 5 truck loads per day to the mill, over a 75-day haul season. This operation would only contribute approximately two weeks of mill operation at full capacity on an annual basis.

Because of the location, size and length of operational season, the Nicholson Mine would not contribute significantly to the cumulative effects within the Cataract Creek drainage other than the possible haulage route impacts on the town of Pony.

The operation of the Amy and A&P Mines could have the following combined effects if maximum production were to occur.

For the first year of operation, there could be 16 to 20 trips per day on a five day per week haulage schedule. After the first year, at this rate, the known reserves of the A&P would be mined out. The Amy would continue to produce three to four truck loads per day, five days per week for the next four years.

Small miner activity is projected to contribute approximately 30 to 50 acres of disturbance over the next 5 to 10 years. Other impacts created by SMES activity is estimated to contribute little to the cumulative effects of the area because of the distance between operations, the scale of activity and the length of time between individual operations.

It is projected that exploration activity will contribute little to the cumulative effects because of the distance between projects, the scale of activity and the length of time between individual projects. It is projected that approximately 80 acres of surface disturbance could occur over the next 10 years. The acreage assumes four exploration projects per year, each disturbing 2 acres of surface disturbance per project, over the next 10 years. These numbers were generated from rates of past exploration activity in the area and does not include disturbance from access routes. This type of activity would have reclamation requirements and bonds attached to the individual projects and their access routes.

It is projected that approximately 70 acres of surface disturbance could occur from the three proposed mining operations and additional 50 acres from small mining activity elsewhere in the drainage. Exploration activity could have additional 80 acres of surface disturbance. The total surface disturbance for mineral development is projected to be 200 acres over the next 10 years. Reclamation bonding would occur on acres disturbed from exploration and plans of operations, approximately 150 acres. All lands disturbed on USFS lands will be bonded for reclamation.

The visual aspect associated from the surface disturbances not reclaimed, (approximately 50 acres open pits, and non-reclaimable SMES and exploration projects outside USFS land) could create the most noticeable long-term effect.

2. Logging

Logging has occurred in the past and may occur in the future. Currently, federal and state agencies have no plans to conduct timber sales in the immediate area. The potential for a private logging operation to occur in the area is small, since the majority of timber lands are on federal surface. If a private operation were to occur in the area its impacts would be considered to be small for the overall cumulative effects due to the limited number of timbered private lands in the area.

The impacts of past logging activities is not known at this time. It is projected that the effects of the past logging will have a lesser affect on the resources in the area as reclamation of the logged areas is naturally completed.

If future state or federal timber sales were to be proposed, an environmental analysis would be conducted at that time.

The cumulative effects that logging could contribute to the area are projected to be insignificant, because of the low potential to develop the resource.

3. Recreation

Recreation for the area is expected to remain the same over the next 5 to 10 years. The federal agencies have no current plans for future development of recreational sites in the area.

The usual recreation for the area is "four-wheeling," hunting and some fishing.

The impacts of this activity are expected to continue at the same level. Spread of noxious weeds, disturbance of wildlife through hunting, fishing, and viewing, increased erosion rates of jeep trails, and loss of timber resources through fire wood collection would also continue. Other than hunting and fishing, none of these activities have mitigating measures that are imposed on the user to reduce impacts.

Cumulative effects from continued recreational use of the area would have noticeable but insignificant impacts, especially from the standpoint of unchecked spread of noxious weeds and erosion of jeep trails. Wildlife could be impacted directly through loss of life by hunting of game and non-game animals and through fishing. Indirectly, wildlife could be impacted by recreational use within their habitat.

B. Summary of Cumulative Effects

1. Topography and Geology

The cumulative effects on topography would be approximately the same for all three actions. The difference is that the no-action and Cataract Creek road alternatives would have the main haul road in the creek bottom and the proposed action places the haul road along the ridge line and closer to the exploration targets. The proposed action could possibly reduce the total surface disturbance over the next several years.

2. Wildlife and Fisheries

Wildlife could be impacted by both recreation and mineral development. Mineral development could cause approximately 200 acres of habitat disturbance over the short term and 50 to 70 acres over the long term. There could be displacement of game animals over a wider range than just the mineral development areas over the a short term, 5 to 10 years. Recreation could have an unmitigated impact on wildlife through direct and indirect activities.

Because activities associated with recreation and mineral development are individual, separated by time, space and usually of short duration, the impacts to wildlife are not significant.

3. Air and Water Quality

Increased exploration activities and the possibility of additional mine development increases the potential for cumulative air quality impacts in the area largely due to increases in vehicle traffic. Other sources would be from ore and waste handling and wind erosion of disturbed surfaces.

New mining activity or increased production at an existing mine or the Pony mill would be evaluated for the need for an air quality permit. An air quality permit is required if estimated emissions of any pollutant exceeds 25 tons per year (ARM 16.8.1102). Even if an air quality permit is not required, an operator must take reasonable precautions to control fugitive dust emissions (ARM 16.8.1401). This may include watering of roads, and that materials be handled on an as-necessary basis. This standard already applies to the Pony mill and small mines in the area.

The air quality permit process and reasonable precautionary provisions should preclude significant adverse cumulative impacts in the area.

4. Recreation/Public Safety

There could be short-term impacts to recreational activity from the cumulative effects of mineral development. Possible impacts could be the loss of visual quality and local displacement of game animals.

Under the proposed plan, public access would remain the same.

Public safety could be increased through use of the proposed road over the next 10 years. The sole-use road would separate the majority of the commercial activities from the general public (recreational activities).

Public safety could be decreased if the no-action and Cataract Creek alternatives were implemented over the next 10 years. This is because of the interaction of commercial activities and the general public on the same road.

5. Noise

Noise would increase in relation to increased mine exploration and development activities. The total sound level (decibels) would not increase significantly but the duration and frequency of occurrence would increase roughly proportionally to the increase in activities.

6. Socioeconomic Conditions

Possible cumulative effects to the socioeconomic conditions of the Pony area due to employment opportunities would be a possible increase in the population base. Based on current and projected mineral development, the work force population could possibly increase by approximately 2 to 4 people on a seasonal basis. This low number represents overhead and contract work, such as drilling. The main work force for mineral development would predominantly come from the established mining community in the Pony area.

CHAPTER VI - CONCLUSIONS AND RECOMMENDATIONS

The proposal to construct approximately 14,000 feet (2.7 miles) of sole-use haul road linking the A&P Mine and the Pony mill would have short-term impacts on wildlife, soils, vegetation, air quality, aesthetics, visual quality, and noise as discussed in Chapter IV. These impacts are determined to be insignificant. Long-term impacts would occur to the topography and geology of the area. These impacts are also insignificant. Hauling a portion of the ore from the heap at the A&P Mine would reduce the volume of material which must be reclaimed on site. Possible continued hauling of additional material by amendment further simplifies on-site reclamation efforts. Reclamation of the A&P heap would return this area of approximately 2.8 acres to useful cover. These are judged to be positive impacts to the environment.

The proposed haul road would separate the general public from commercial activities (mineral development, logging), therefore, increasing public safety. The proposed haul road is a greater distance from riparian habitat along Cataract Creek, therefore, eliminating potential effects to the riparian zone. Over the long term, the proposed road could possibly reduce total surface disturbances due to its alignment with current and future exploration and mining targets.

The 20,000 feet of road construction and upgrading which was done on private land will be brought under the permitting, bonding, and reclamation requirements of MMRA as a condition of any approval decision.

Population influx would only be 2 to 4 employees if the mining would develop for several areas as discussed in Chapters IV and V. The proposal does help stabilize and provide for 25 employees and their families.

The cumulative impacts of this project would be dispersed in time and space and hence, would not constitute a significant impact.

An EIS is not necessary as the direct impacts and cumulative impacts do not constitute a significant impact.

CHAPTER VII - CONSULTATION AND COORDINATION

This EA is a joint document prepared by the Bureau of Land Management, Butte District, the U.S. Forest Service, Beaverhead National Forest, Madison Ranger District and the Department of State Lands.

The Department of Health and Environmental Sciences, Air Quality Bureau and Water Quality Bureau and the State Historic Preservation Office were consulted in preparation of this document.

A public notice was published in the Madisonian newspaper, Virginia City, Montana, on November 14, 24, and 28, 1991, requesting written comments by December 6, 1991. Comments were to address any potential effect the proposal may have upon the Pony Multiple Resource Area. This area is listed on the National Register of Historic Places. BLM will consult on "assessment of effects" with the SHPO after receiving any written comments.

Individuals involved in preparation were:

Person	Discipline
Bureau of Land Management	
Mike Brown	Hydrology
Oscar Martinez	Wildlife
John McKay	Geology
John Park	Cultural Resources
U.S. Forest Service	
Deborah Johnson	Geology
Department of State Lands	
Bob Winegar	General, Socioeconomics
Pete Strazdas	Wildlife, Range, Vegetation, Soils
Claudia Furois	Word Processing Tech
Pat Driscoll	Air Quality and Climate

REFERENCES CITED

Department of Health and Environmental Sciences, August, 1989, Environmental Assessment -- Chicago Mining Corporation MGWPCS 0059.

Flath, Dennis L. 1984. Vertibrate Species of Special Interest or Concern: Mammals, Birds, Reptiles, Amphibians and Fishes. Montana Department of Fish, Wildlife and Parks, p.76.

U.S. Department of Interior, Bureau of Land Management, 1987, Wilderness Environmental Impact Statement for the Dillon Resource Area, Final, 1987, Bureau of Land Management, Dillon Resource Area Dillon, Montana.

U.S. Forest Service, Deerlodge National Forest and Department of Health and Environmental Sciences, 1988, Environmental Assessment and Preliminary Environmental Review 2900 Development Corporation Atlantic and Pacific Mine Pony, Montana.

U.S. Forest Service, Beaverhead National Forest, 1986, Forest Plan - Final Environmental Impact Statement.

GLOSSARY

Archean	The earliest period of Earth's history, ending about two billion years ago.
Cenozoic	The most recent era of geologic time, beginning 65 million years ago.
Diabase	Igneous rock composed primarily of the minerals plagioclase feldspar, pyroxene, and amphibole.
Dike	A tabular igneous intrusion that cuts across the bedding or foliation of the country rock.
Diorite	A plutonic igneous rock composed primarily of plagioclase feldspar and pyroxene.
Glacial till	An unsorted, unstratified sediment deposited by a glacier and consisting of clay, silt, sand, gravel, and boulders.
Gneiss	A foliated rock formed by regional metamorphism, in which bands or lenses of quartz and feldspar alternate with dark bands of mica and amphiboles.
Granitic Stocks	Igneous intrusions composed of granite (quartz, feldspar, and mica) which have less than 40 square miles of surface exposure.
Igneous	Rock that formed from molten material (magma or lava).
Mesozoic	An era of geologic time extending from 225 until 65 million years ago.
Metamorphosed rocks	Rocks which have been altered mineralogically and structurally as a result of heat and/or pressure greater than that at which the rocks formed.
Morainal	Composed of mounds, ridges, or other accumulations of glacial till.
Paleozoic	An era of geologic time, from the end of the Precambrian to the beginning of the Mesozoic, or from about 570 to 225 million years ago.
Precambrian	An era of geologic time from the end of the Archean to the beginning of the Cambrian period (570 million years).
Riparian	Pertaining to or situated on the bank of a body of water, especially of a watercourse such as a river.
Sulfide Mineralization	Presence in a rock of minerals such as pyrite, chalcopyrite, or galena, which are composed of sulfur and a metal.

APPENDIX A

March 3 1849

United States Department of the Interior

TAKE PRIDE IN AMERICA

BUREAU OF LAND MANAGEMENT
DILLON RESOURCE AREA
1005 SELWAY DRIVE
DILLON, MONTANA 59725

IN REPLY TO:

2800

AGREEMENT

ROAD USE AND MAINTENANCE

Details of this agreement are:

Serial Number 80111

User (name and address) . . . . . . Chicago Mining Corporation
P.O. Box 526
Pony, MT 59747

Permitted Use . . . . Haul approximately 20,000 tons of ore on 1.2 miles of BLM road using 35 ton ore trucks.

Description of lands . . . . T2S, R3W, Section 22: S1/2
23: W1/2W1/2SW1/4

Effective Date . . . . September 3, 1991

Expiration Date . . . . August 1, 1992

Conditions . . . . Mitigation measures of the Forest Service will be attached to and made a part of this permit with the following exceptions:

1. Item # 14, no bond will be required from the BLM.
2. Area Manager will be used in place of District Ranger.
3. Item #16, The fee is established at $.02/ton/mile for a total fee of $480.00 to haul 20,000 tons of ore.

User: Gene Nellis, Chicago Mining Corporation

Terms and conditions: Signature: Gene Nellis are accepted.

Title: Chief Geologist CMC Date: Sept 6, 1991

Bureau of Land Management:

This agreement is issued pursuant to the authority vested in the undersigned. All exhibits attached hereto are incorporated and made a part of this agreement.

Signature: 9/9/91

Acting Area Manager, Dillon Resource Area Date

M-80111
Chicago Mining Company

Road Use Agreement

Mitigation Measures

The following measures were identified to mitigate the concerns and will be incorporated into the requirements of the Road Use Agreement.

1. The trucks authorized to haul on this road will be 35-ton Caterpillar haul trucks. The Cataract Creek Road will not be widened to accommodate these trucks.

2. Trucks will travel in convoys, round trip, and be led by a pilot car. The pilot car will stay far enough ahead of the trucks to warn other vehicles and allow them time to find a suitable turnout, but will not precede the convoy by more than 15 minutes. The minimum delay for public traffic will be 15 minutes. This pilot car will have radio contact with at least one of the haul trucks in the convoy and alert them to other traffic. A sign will be placed at the intersection of the public Cataract Creek Road and the private haul road, and at the Atlantic and Pacific Mine, warning the public to watch for and stop for the pilot car.

3. Maximum speed for haul trucks will be 15 miles per hour.

4. Hauling will only be permitted during daylight hours.

5. Chicago Mining will set mile markers along the haul road.

6. Weekend and holiday hauling will not be permitted.

7. This agreement does not authorize snow plowing. Plowing will be coordinated with the Area Manager on an as needed basis.

8. Road watering will be required as needed to control dust.

9. Road drainage requirements will be as attached to the Forest Service permit. These will be established prior to hauling and maintained during operations. They will be serviceable going into winter weather, October 15, 1991.

10. Cut and fill slopes disturbed while maintaining the road will be reseeded. The seed mixture will be the same as required by the Forest Service.

11. Cattleguards will be maintained and remain serviceable.

12. This agreement is not renewable. Road use cannot be extended beyond the August 1, 1992, date without a new application, subsequent environmental analysis, and a new road use agreement.

13. Chicago Mining Corporation will be responsible for the cost of treating any new weed populations that show up along the road.

14. Hauling in the spring will not resume until the road is dry and use is approved by the Area Manager.

15. A fee will be assessed for each ton of ore hauled. The amount will be specified in the Road Use Agreement.

16. This agreement is only for hauling ore. No leachate or material that has been treated with cyanide may be hauled under this agreement.

17. Hauling may be suspended by the Area Manager for violations of the terms of the agreement, to protect the roadbed, and for public safety.

18. Any deviation from these stipulations must be submitted for environmental analysis and approval in advance.

19. The number of haul trips per day shall not exceed 18.

20. The cooperator will identify emergency runouts for runaway trucks and ensure that the drivers are aware of their locations.

APPENDIX B -

THREATENED AND ENDANGERED SPECIES BIOLOGICAL ASSESSMENT

Cataract Creek Road -- Ore Hauling

A. Situation Description

The Madison District of Beaverhead National Forest has analyzed a proposal to haul ore over the existing Cataract Creek Road. This proposal involves 35 ton ore haul trucks making approximately 15 loads per day. The Cataract Creek Road is approximately on mile long on National Forest System Land, one mile of BLM land and .5 miles of private land. The road traverses open sage brush habitat on the National Forest, interspersed aspen and sage grass types on the private and BLM.

B. Geographic Description and Background

The affected area is in the Tobacco Root Mountains five miles west of Pony Montana. The elevations range from 5300 feet at Pony to 7319 feet at the Atlantic and Pacific Mine. The topography and vegetation types of the area are varied. The ridge top at the A&P Mine is open with bunch grass habitat types, as the drops in elevation Sagebrush bunchgrass types are evident interspersed with aspen stands. South of the road are the timbered slopes of Hollowtop Mountain. The higher elevations have lodgepole pine, douglas fir communities with whitebark pine and subalpine fir in the higher elevations. Spruce fir stands are found along the streams. North of the Cataract Creek Road are dry douglas fir, limber pine communities. Cataract Creek Reservoir is located adjacent to the road approximately two miles east of the A&P mine.

For the purposes of this evaluation, the effects are considered for the T&E species found within the entire Madison Ranger District.

C. Species of Concern

In a letter to the District Ranger on September 14, 1990, the U.S. Fish and Wildlife Service identified four species that should be considered in the Biological Evaluation. (This letter was requested for the Gravelly sagebrush EIS which encompasses this area.) These include: the threatened grizzly bear, the endangered grey wolf, bald eagle, and peregrine falcon. In addition to these species, sensitive species as identified by the Regional Forester are evaluated for their predicted responses to the proposed action.

Grizzly bear

None of the Tobacco Roots are within any Grizzly Bear Recovery area. The nearest recovery areas are the east side of the Madison drainage north of the Wedge near Indian Creek and in Idaho on the Targhee National Forest.

The Tobacco Root Mountains have had grizzly bear sightings on an irregular basis. The last confirmed Grizzly Bear siting in the Tobacco Roots was in 1985 in the South Meadow Drainage 14 miles south of Cataract Creek. Prior to that a

Grizzly was sighted in the South Boulder Drainage in the late 1970s. It has been hypothesized that the Tobacco Root Mountains are providing spring and fall habitat but are too dry in the summer months to provide yearlong quality habitat. The most recent confirmed sighting close to the project area occurred in the fall of 1990 at the Cedar Lake Area of the Madison Mountains 37 air miles from Cataract Creek.

There have been no known grizzly bear mortalities in the Tobacco Roots in recent years. The last known grizzly bear mortality on the Madison Ranger District was grizzly bear #121 trapped on July 28, 1986 (his 3rd trapping in 2 years) near Black Butte. (This bear's tracks were seen 6 air miles south in Fossil Hellroaring allotment 1 day prior to being trapped.) The bear, a 6 year old boar, had reportedly been killing sheep in allotments to the north prior to each of his 3 trappings. After the 3rd trapping, he was transported to Bozeman where he was to be moved to the Flathead National Forest for release the following day. While examining the bear in Bozeman, state officials determined the bear had badly damaged teeth. State Fish and Wildlife officials feared the bear might be a threat to humans and therefore killed the bear.

Grey wolf

Wolf have been regularly reported in the Gravelly and Tobacco Root ranges, the last report 2 years ago on the Madison district side. A total of 180 sightings have been reported on the Beaverhead since 1964. None of the sighting can be considered as confirmed. Most sightings have been one or two animals, with young rarely seen. No pack activity has been reported, so the population is low (if they are present at all) with at most a few animals scattered in the Gravellies.

Bald Eagle

There are no known Bald Eagle nest or active nest sites on National Forest Land in the Tobacco Roots. The closest active nests are along the Madison River in the Bear Trap Canyon. Winter Bald Eagle use could occur on the lower reaches of Willow Creek East of Harrison,Montana.

There are several active bald eagle nests south of Ennis lake with four on the Madison Ranger District in the Chain of Lakes Area approximately 70 air miles from Cataract Creek. The closest nest is approximately 35 miles east in the Bear Trap Canyon.

Peregrine Falcon Endangered Species

Peregrines have not been found in the area although there are occasional unconfirmed reports. The only known Peregrine Falcon nest on the Madison Ranger District is approximately 70 miles south near Hidden Lake.
Sensitive Species

A nest site survey was conducted on the Deerlodge National Forest in the summer of 1986, using the habitat suitability index developed be Escano 1985. Several cliff sites on the west slopes of the Tobacco Roots rated out very high in terms of suitability for peregrine falcon nest habitat.

SENSITIVE SPECIES

There are 8 species of wildlife which have been identified as sensitive by the Regional Forester which may possibly be on the Beaverhead National Forest. Of these, 5 may be found within the analysis area. These include: Lynx, Boreal Owl, Ferruginous Hawk, Trumpeter Swan (discussed above under indicator species) and Black-backed Woodpecker.

The lynx has not been reported in the Tobacco Root Mountains or anywhere close to the Madison Valley. Most distribution maps show southern Montana to be on the edge of this mammal's habitat.

Boreal owl probably are present in the upper elevations though none have been found. The birds typically are found in old growth spruce/fir and lodgepole. The presence of large nesting cavities in high elevation old growth conifer stands is a limiting factor for this bird.

Ferruginous hawk are present in the West Fork of the Madison in the Gravelly Mountains and are fairly common. They are known to be nesting in the sagebrush dominated hillsides. Similar habitat types occur in the Tobacco Roots and it is likely that Ferruginous hawks inhabitat the area.

Black-backed woodpecker is a fairly common woodpecker on the Madison Ranger District. Though no nests have been identified, population number indicate a substantial population. Given the very high numbers of lodgepole snags due to the beetle epidemic and the large numbers of dead Douglas Fir due to spruce budworm epidemic, it is not surprising to find the woodpecker population responding to this change.

D. Project Effect Analysis

The guidelines listed in the Greater Yellowstone Grizzly Bear Recovery Plan do not cover the Tobacco Roots which are outside all recovery areas. However, endangered and threatened species are protected regardless of where they occur. If a grizzly bear occurs outside a recovery area, provisions must be made to protect it from harm and harassment, although management of habitat for grizzlies is not necessary. Because the grizzly bear is a threatened species, it is protected under the restrictions listed in the Endangered Species Act of 1973.

The Draft revised recovery plan covers this point. "It is recognized that grizzly bears will occasionally move and even reside permanently in areas outside the recovery zone. As long as the species remains listed as threatened in the adjacent ecosystem, any bears outside the recovery zone are protected by Federal statute against illegal killing. Management efforts such as pursuit and capture will not be directed against grizzly bears outside the recovery zone if such bears do not come into conflict with people or domestic livestock. It is recognized that such areas are not primarily managed for grizzly bear use. Bears that come into conflict with man under the nuisance bear criteria in the Guidelines (1986) outside the recovery zone will be captured and relocated into the recovery zone under the Guidelines. Removal of nuisance bears outside the recovery zone by authorized agency action is necessarily more lenient than within the recovery zone." (U.S. Fish and Wildlife Service 1990).

Hauling ore on an existing road during daylight hours is not likely to significantly impact grizzlies. There will be disturbance during the hauling however which would cause some increased risk to conflict with man and a disturbance factor for the duration of the activity. The number of vehicles estimated to use the road including mine traffic is no more than 15 vehicles per day any day of the week. The ore hauling with pilot car will increase traffic by 20 vehicles per day. There will be no impact on vegetation or habitat other than the vehicles on the road.

With strict compliance with the stipulations for ore hauling such as slow speed limits, hauling only during daylight hours, no hunting while hauling, and the fact that there will be less open road in the Cataract Creek Drainage there will be no effect on Grizzlies.

Peregrines have not been found nesting anywhere in the Tobacco Roots despite potential habitat west of Cataract Creek. There is suitable nesting habitat on the west slopes of the Tobacco Roots. Since the ore hauling will have no effect on peregrine habitat or prey base there will be no effect on peregrin falcons.

Bald eagles are seldom seen near Cataract Creek. Although they could potentially use Cataract Creek Reservoir. Use of the road for ore hauling will have no effect on bald eagles.

Sensitive Species

The lynx should not be impacted by the ore hauling. The lynx prefers to den in mature spruce/fir stands and hunt in young spruce/fir where their main prey snowshoe hare is most common. The area proposed for hauling is primarily open sagebrush communities.

Boreal owl and black-backed woodpecker will not be impacted by ore hauling. Both species are forest dwellers therefore, there is no identfied conflict with vehicular traffic on the Cataract Creek Road.

In summary, based on the proposal as modified with stipulations the affects on the T&E species and sensitive species are insignificant and discountable and are not likely to adversely affect these species.

Cummulative Effects

The proposal will increase traffic by 20 vehicles per day on the existing Cataract Creek Road. The authorization to use the road will expire August 1, 1992. The increased traffic added to the already relatively light traffic on the road will not have any identifiable adverse cummulative effect on threatened, endangered or sensitive species that may exist in the Cataract Creek Area.

REFERENCES CITED

Snow, C. 1974. Habitat Management Series for unique or endangered species-Ferruginous Hawk. U.S. Dept. Interior Tech. Note Series No. 13, 23 pp.

U. S Fish and Wildlife Service 1990. Draft Grizzly Bear Recovery Plan. U.S. Fish and Wildlife Service. Missoula, Mont. 117 pp.

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APPENDIX C - Noise Levels

The following table lists some conditions and activities with their average sound levels for informational purposes.

	decibels
Threshold of pain	130
Jackhammer	125
Loud rock music	115
Heavy truck	95
Heavy street traffic	85
Heavy traffic (at 25 to 50 feet)	75
Average factory	75
Average automobile	65
Quiet residential street	50
Average residence	45
Very soft music	30
Quiet whisper	20
Leaves rustling	10
Threshold of hearing	0